Chapter

Demand for Health and Healthcare

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Abstract

Healthy human beings are the center of sustainable development, and human beings have long sought to maintain and improve their health by increasing their health reserves. In general, the use of services or the demand for medical services has a vital role in improving the level of health of each person. The demand for health care is a demand derived from the demand for health and is influenced by several factors, including price, income, population, etc.

Keywords: Healthcare Services, Demand, Demand Curve, Price, Health Economics

1. Introduction

When people are asked why health is important, many are unable to answer it. The reason for this may be due to their lack of awareness of the importance of health and the consequent lack of proper self-care. Health can generally be considered an essential basis of life, but many people still do things that show that health is not a priority in their lives. They spend a lot of time on the opportunities they find but do not spend time learning what is good for them to exercise or stay healthy; they spend their budget on Nonsignificant things. But for a more nutritious diet, they pay less.

According to the World Health Organization's definition, health is a state of complete physical, mental and social well-being and not only the absence of disease or infirmity. This definition of health has been given more attention since 1978 at the UN Summit in Almaty. Due to the considerable differences in the level of health in different countries of the world, the members of this organization were required to provide Primary Health Care by providing an essential package aimed at reducing the health gap between different countries and with the goal of Health for All by the year 2000. Undoubtedly, one of the most critical concerns and challenges that different countries have faced in providing primary health care to their population has been the lack of resources in the face of the growing need to receive this care during all these years.

So from the perspective of health economists, health is a durable good, or type of capital, that provides services. The flow of services produced from the stock of health capital is consumed continuously over an individual's lifetime. Each person is assumed to be endowed with a given stock of health at the birth time, such as a year. Over the period, the stock of health depreciates with age and maybe promoted by investments in Health services. Death occurs when an individual's stock of health falls below a critical minimum level.

2. Demand

To request a product or service, you must ask for it, afford it, and have a specific plan for purchasing it. Desires are, in fact, the unlimited desires and inclinations that people have for goods and services. Imagine being able to afford something if you could afford it or it was not so expensive. When we make choices, scarcity guarantees that many of our desires will never be met. Demand reflects our plan and vision for the demands that will be met. The amount of goods and services that the consumer plans to buy depends on many factors: commodity prices, related commodity prices, personal income, expected future prices, population, advertising, and preferences.

We must first discuss the relationship between the demand for a good or service and the price. All other factors influencing demand must be kept constant to study this relationship called the Citrus Paribus principle. The demand for a good or service is inversely related to its price; as the price increases, the demand for it decreases, and vice versa. Of course, the rate of demand response to price changes is not the same for all goods, which will be discussed in the topic of elasticity [1].

2.1 Demand curve

The demand curve is a geometric location of points where the dependent variable is the rate of use of a good, and the independent variable is the price of that good; in general, the demand curve shows the maximum demand for a good at different prices and also represent the ultimate price for a certain amount of a good. Usually, the price variable is shown on the y axis and the amount of goods or services on the x-axis (**Figure 1**).

This shows the maximum amount someone is willing to pay for a small increment in consumption rate. Care should be taken in using the "demand" to mean the amount of consumption of a particular good or service at a specific price and to use it to mean a range of corresponding values in the price range (for example, one point on the demand curve versus the whole Points on the curve). The demand for a good or service is a function of its relative price and buyers' income. The demand curve is a two-dimensional representation of this process. Responding to price changes is moving along the demand curve and responding to changes in revenue as the entire demand curve changes and shifts (**Figure 2**). Some of the characteristics of the demand side that should always be kept in mind when using the demand curve in health care, especially when making normative statements about well-being, are: Uncertainty

Figure 1.
Demand curve.

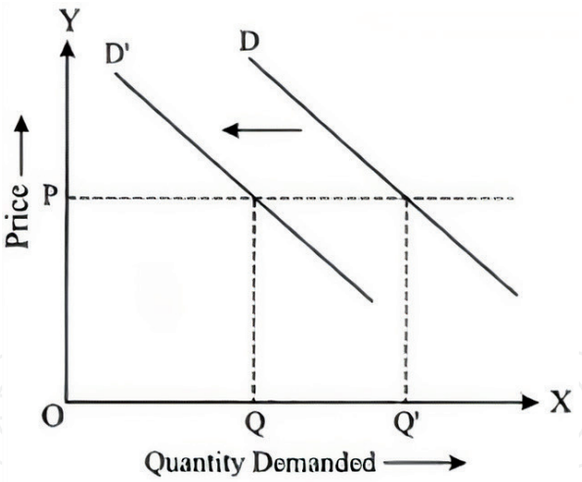

Figure 2.
Change in demand curve.

on the part of the consumer about the likelihood of future illness; Side effects, the effectiveness of treatment methods and their possible cost. When sick, people experience anxiety, disability, suffering, and pain that may not be considered in the theory of desirability; It is also important to note that there may be an external demand for care and treatment of a person in addition to their need; And the fact that the price at which the applicant responds to the service or goods may in no way be an accurate reflection of the final cost of providing that product or service to the service provider.

We can also consider the demand curve as a payment ability curve that measures the ultimate benefit. This curve shows the highest price a person is willing and able to pay for the last unit purchased. If there are fewer goods available, the highest price that a person is willing and able to pay for a larger unit will be high. But as the quantity of available goods increases, the ultimate benefit of each additional unit decreases, and the highest price offered on the demand curve decreases.

In addition to the price of the product in question, which is inversely related to the demand for that product, we can examine the relationship between the demand for a product and other factors in the space of the demand curve.

Prices of other goods: The amount of goods or services that consumers plan to buy depends in part on the prices of other goods and services. In this case, there are two types of goods: substitute goods and complementary goods. Two substitute goods can be used instead of each other, and if the price of one of them increases, the demand for that product will decrease, and people will be more likely to demand a substitute product. For example, if beef and chicken are two substitutes, as the price of beef increases, so makes the demand for chicken.

A complementary good is a good that is used with another commodity, and if the price of one of these commodities increases, in addition to the demand for that commodity, the demand for the other commodity also decreases.

Income: Assuming other factors are constant when people's incomes increase, they buy more goods and services, and vice versa. Demand increases as income increases are normal goods, and goods for which demand decreases as income increases are called inferior goods. But in general, it can be said that the demand for health goods and services has little to do with income. Because medical goods and services provide their health reserves, and as a result, people's income cannot have a significant impact on demand for these goods. However, rising incomes will increase the demand for luxury medical services.

Population: Demand also depends on the size and age structure of the population. If the population increases, the demand for all goods and services increases,

and the population decrease. The demand for goods and services decreases. At the same time, as other factors remain constant, as the population in a particular age group increases, so makes the demand for goods and services used by that age group.

Consumer's Preferences: Demand also depends on consumer preferences. Preferences are people's tastes and attitudes towards different goods and services. Preferences are formed based on previous experiences, genetic factors, propaganda, religious beliefs, and other cultural and social factors [2, 3].

2.2 Medical goods

Medical care consists of countless goods and services that maintain, improve, or restore a person's health. For example, a young man may have wrist surgery to repair a torn tendon so he can return to work, an older woman may have cataract surgery to improve her vision, or a parent may have to Bring their child to a healthcare center for an annual dental checkup to prevent future problems. Prescription drugs, prescription glasses, and dentures are examples of medical supplies, while surgeries, periodic physical examinations, and visits to medical professionals are examples of medical services. Preventive and medical care are heterogeneous, making it difficult to measure and quantify medical care units accurately. Medical care services have four characteristics that distinguish these from other goods and services: intangibility, inseparability, inventory, and inconsistency.

Intangibility means that the five senses are incapable of evaluating medical services. Unlike new shoes, a vegetable salad dinner, or a new cell phone, the consumer cannot see, taste, or touch medical services. Indivisibility also means that the production and consumption of a medical service take place simultaneously. For example, when you see an ophthalmologist for an examination, you use ophthalmic services right at the time of production. In addition, a patient is often seen as both a producer and a consumer. Inventory is directly related to inseparability. Because the production and consumption of a medical service occur simultaneously, health care providers cannot store or maintain medical services. For example, a physiotherapist cannot provide a list of different physiotherapy services to meet demand during busy times. Finally, inconsistency means that the variety, composition, and quality of medical services are very different. Although different people may see a doctor simultaneously, there are various reasons for visiting a doctor. One person may see a doctor because of a typical physical problem, while another may see a doctor because of a heart attack. The combination of prescribed medical care or the frequency of its use can vary significantly from person to person and at different times [4, 5].

Demand for health care: Demand requires people to seek a service they can afford and are willing to pay for it. The need for health care is the care that doctors believe is essential for a person to stay healthy or healthy. Sometimes, patients think they need health care, but doctors believe they cannot benefit from such care. Sometimes the doctor believes that there is a medical need, but the patient does not consult his doctor because he prefers not to receive treatment or that he has not recognized the need. Even if patients have as much knowledge as doctors, their demands may be different from their needs.

The following factors affect the demand for health care:

I. Needs (based on patient perception)

II. Patient preferences

III. Price or cost of use

IV. Income

V. transportation cost

VI. waiting time

VII. Quality of care (based on patient perception)

The use of health care depends on demand and availability. If planners allocate resources based on need rather than demand, they may find themselves in a situation where some services are underused, and some services are overused.

Just as the health care market is different from other commodities, so is the demand for health care different from the simple demand model. One of the differences is that health care is not demanded because it is self-satisfying. After all, health care itself does not lead to satisfaction. Instead, health care is in demand because people are satisfied with their activities when they are healthy. So the demand for health care is a derived demand.

Patients' perceptions of their need and capacity to benefit from health care are strongly influenced by physicians and health care providers. Although in economics, it is assumed that consumers can make informed decisions about their consumption patterns, healthcare consumers delegate this decision-making power to health care workers who are more aware of them. This phenomenon is due to information asymmetry between health care providers and patients, which carries the risk of induced demand by providers to increase revenue. Another complication stems from the fact that health care is highly heterogeneous. Each patient has a relatively different combination of pain and symptoms. Therefore each patient needs to purchase a fairly different package of care that both the patient and the physician have uncertainty about its effectiveness in meeting the need.

Another critical difference is that many health services are paid for by third parties. Payments by third parties or insurance companies Although they significantly increase people's purchasing power for health care, it is also important to note that they can lead to ethical risks and increase demand for services that patients may not need.

Demand for health care depends on the level of consumption of an individual in case of illness; the amount of consumption can differ according to the factors affecting the demand, such as income, service price, education, norms, social traditions, and quality. A person's decision to use or use services is related to his or her illness/injury status rather than health care. Developing countries are focused on promoting health care as an essential policy to improve health outcomes and fulfill international obligations and universal coverage of health services. However, many policies have focused more on improving physical access than on the demand-side healthcare needs pattern. In low-income countries, allocating scarce financial resources is based on clear criteria for the impact of investment in the health sector on service demand.

In these countries, due to the lack or weakness of social security systems, the occurrence of the disease leads to increased health costs and reduced labor productivity and leads to a loss of household welfare. In developed countries, due to insurance, many health services are used with minimal consumer participation in the payment; however, in developing countries, concerns about less use of health services, to the extent of supply. Or poor access is associated. However, even in health services, due to various barriers on the demand side, related to the cost

of treatment, travel costs, and quality of services, the rate of exploitation is low. Also, the importance of a person's health status in a clinical context is related to the analysis and social evaluation of a person's health and social environment. Studies have shown that the risk of death is related to people's perception of the health importance of maintaining it. Since one of the priorities of health policymakers is to improve people's health, various factors that directly and indirectly affect the demand for health services should be examined more carefully. Identifying the factors influencing individuals' decision to request health care services and choosing from different providers. Therefore, evaluating the determinants of demand for health services will introduce and implement appropriate incentive schemes to encourage better health services. Because health is one of the essential components of human capital and healthy human beings are the center of sustainable development, health can significantly increase the ability of individuals to perform various activities, including productive activities. As a result, people are looking for health. At the individual level, health is mainly influenced by multiple factors such as biological factors, lifestyle, purchased non-medical services, purchased medical services and goods, and different socio-economic characteristics. People's understanding and expectation of health care quality are essential because the perceived quality of health services often affects health services' behavior and consumption patterns [6].

2.3 Derived demand for healthcare

Grossman used human capital theory to explain the demand for health care. According to human capital theory, people invest in themselves through education and health to increase their income. Grossman proposed an approach in which many important aspects of the demand for health services differ from the traditional demand approach:

1. That consumers are looking for health and demand health services to achieve it.

2. To achieve health, consumers buy health services from the market and combine them with their efforts to improve health, such as diet and exercise.

3. The health gained lasts more than a period and is not immediately depreciated to be analyzed as a capital good.

4. Most notably, health can be considered as both a consumer good and a capital good. From the people's point of view, health is a consumer product because it makes them feel better. As a capital good, it is also suitable for people's health because it increases the number of healthy days of life to work and earn money. **Figure 3** provides a simple diagram that explains the concept of health capital. Just as one thinks that cars or laptops are capital goods that use the flow of their services over time, one can also understand the savings of one's health capital, the outcome of which is "healthy days". Outflow may be considered as one dimension of healthy days or measured in several dimensions of physical, mental health, and limited activity. People consume a range of health inputs, including health care inputs, diet, exercise, and time, so they invest in health savings. These investments help maintain or improve consumers' health reserves, providing them with healthy days. Over time, health reserves may either grow, remain constant, or decrease with age due to illness or injury. As mentioned in Box 3, many technologies may generate

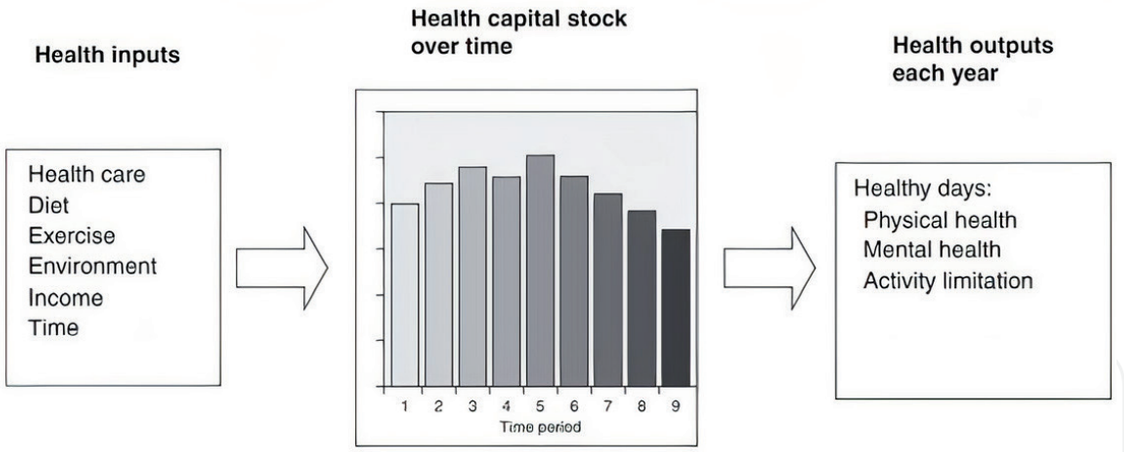

Figure 3.
Investing in health.

health capital, using different amounts of time or health goods and services. **Figure 3** shows how the ultimate goal of "healthy days" guides consumer decisions about the amount, time, and cost of investing in health storage. We will see that the prices of health care, the rate of wages of individuals, and their productivity in the production of health determine how resources are allocated between health capital and other goods and services that people buy. Consider a consumer who buys market inputs (e.g., medical care, food, clothing) and combines them with his or her own time to generate a health capital reserve that increases his or her utility [2].

2.4 Price elasticity of demand

As an economic principle, the price of a good and the demand for that good are inversely related. That is, the higher the price of a commodity, the less demand there is for that commodity, and the lower the price of a good, the greater the demand for it. Price elasticity of demand shows that a one percent change in a good price causes a few percent changes in the demand. For example, if the price of a car rises by one percent, the demand for it will fall by a few percent, and vice versa, if the price of a vehicle falls by one percent, the demand will increase by a few percent.

Three things can happen when we calculate the price elasticity for a commodity:

a. When a one percent change in the price of a commodity occurs, the demand for that commodity changes by more than one percent. These types of goods are very price sensitive.

b. When a one percent change in a good price causes the demand for that good to change by less than one percent, this type of product is called inelastic. Demand for this type of goods shows a mild reaction to price changes.

c. The third case is when a one percent change in the price of a good causes a one percent change in the demand for that good.

If there is an inverse relationship between price and demand, demand elasticity will always be negative because the percentage change in one face or denominator is a negative fraction. Therefore, after calculating the price elasticity of demand, if the result, regardless of the negative sign of the number, becomes more than one, the

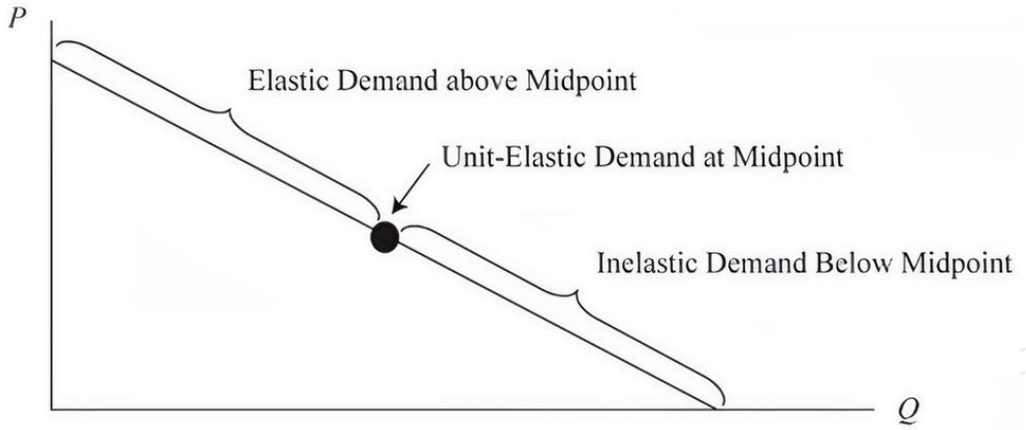

Figure 4.
Types of elasticity.

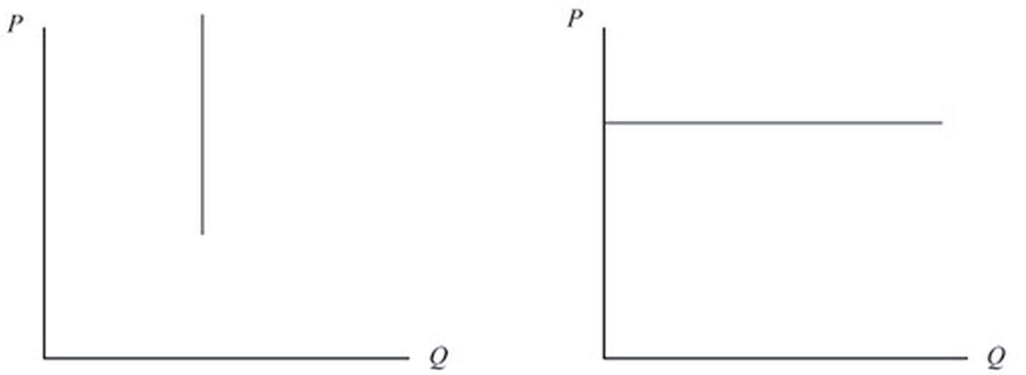

Figure 5.
Marginal modes in demand elasticity.

commodity with elasticity is less than one, the good without elasticity, and if it is equal to one, the good has a single elasticity.

Although the price elasticity of a commodity can be determined only by collecting price information and calculating, some factors affect this ratio.

2.5 Factors affecting the price elasticity of demand

Alternative goods: The more alternative goods there are, the higher the price elasticity of that product. That is, when the price changes, the demand for that product changes more drastically. Also, price changes in a product cause a shift in the demand for alternative goods. In the healthcare sector, there are usually few alternatives to a health or medical intervention.

Complementary goods: When a product has a supplement, a change in the price of a complementary product causes a change in the demand for another product. Maternal and child care can be mentioned as complementary goods in the field of health (**Figure 4**).

Commodity prices: In general, if the price of a commodity is very low, the amount of demand does not react to price changes. But high-priced products are attractive. On the other hand, different results are obtained depending on the price at which the demand elasticity is calculated. As mentioned initially, the price of a product has an inverse relationship with the amount of demand. When the price is precisely in the middle of the demand curve of a commodity, the commodity has a single elasticity. Also, if the price is less than the midpoint, the product in that range

is unattractive. If the price is above the midpoint, the product will be pulled. You can see this in the chart below.

Marginal modes in demand elasticity: There are also two cases in which the product is completely elastic or completely non-elastic. If the good is fully elastic, the demand for that good will be zero if there is a slight change in the price of the good. Perhaps this is the case for a salesperson in a highly competitive market. If the good is completely inelastic, demand is a fixed figure, regardless of the price range. You can see these modes in **Figure 5**.

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